SHOULD THE EYES OF LITTLE CHILDREN BE TESTED?

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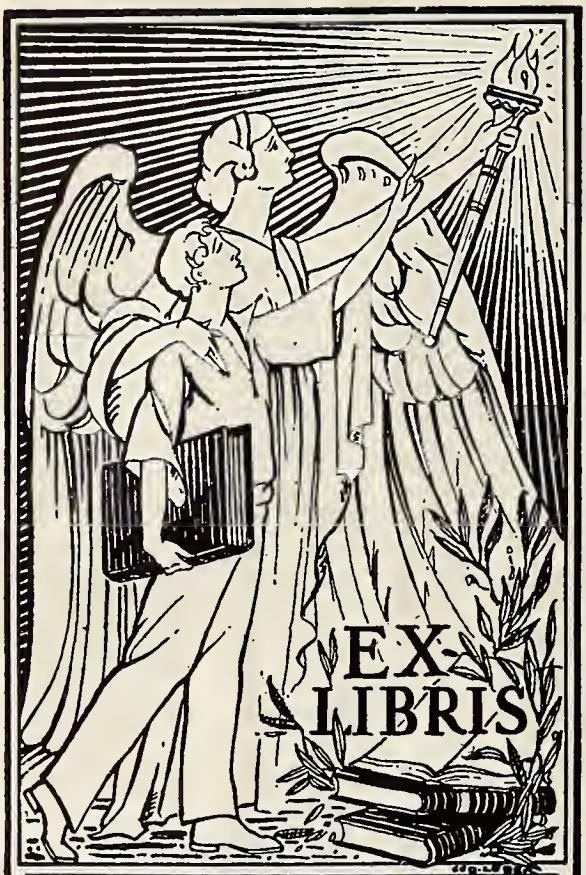

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SHOULD THE EYES OF LITTLE CHILDREN BE TESTED?

A Suggested Method

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WITH increasing consideration given nowadays to the preschool child, more and more do we realize that early recognition and correction of defects are essential factors in helping to fill our schools with healthy children. As posture, teeth, tonsils, hearts all demand their share of attention, we begin to ask ourselves how materially visual errors are affecting the physical and mental condition of early childhood, and to what extent these faults can be eliminated before school years are reached.

The fact that a careful study of the eyesight of school children reveals approximately twelve per cent as suffering from eye difficulties of one kind or another indicates failure somewhere. Might not this percentage be lowered by examining children at an earlier age and correcting difficulties before they become permanent handicaps?

Learning the First Step in Vision Testing. Being Taught to Point in the Direction the Legs of the Letter Point

It was with this possibility in mind that in March, 1925, a demonstration center was opened by the National Committee for the Prevention of Blindness for examining the eyes of children referred to the preschool clinic at Hartley House in New York City. With the willing coöperation of the neighborhood council and with the generosity of an ophthalmologist in devoting an hour each week to the work, a care-

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ful checking up of cases was made practicable and a number of youngsters from three to six years of age have had the benefit of attention, the value of which can at present only be guessed at.

As findings justified further expenditures and increasing demands came for more centers, the study was extended to several of the Brooklyn free kindergartens, in coöperation with the Brooklyn Kindergarten Health Demonstration, and to two private kindergartens. A clinic was also established at Union Health Center.

This expansion and the Committee's plan to reach a sufficient number of children in its study to prove the value of such work called for an enlarged personnel. It also demanded the development of a simplified method of inspection, which might be employed by nurses and lay assistants who would refer to ophthalmologists children found with abnormal eye conditions. With the coöperation, therefore, of a number of ophthalmologists, a special technique was developed, with the idea not only of following this in the Committee's study, but of stimulating its use in all places where health work with preschool age children is being carried on. Such technique must, of course, assure accurate findings from the reading of the Snellen chart, and these must be obtained by as simple a method as possible so that the child may not be fatigued or discouraged. Through a process of elimination the Illiterate E chart was decided upon as probably the most accurate and the simplest.

Method as Developed

The method here described was developed through working with some 300 children between the ages of three and six years. Sixteen nationalities were represented among these children, of whom six understood no English. The equipment used consists of

A Snellen Illiterate E chart, properly lighted, hung on a level with the child's eyes.

An accurately measured twenty foot distance.

3 x 5 neutral colored cards for covering the eye.

An E the size of the one at the top of the chart on a card for teaching the child how to play the game.

The work with these little children must be done entirely in the spirit of play. The E is a funny little animal with three legs which turns over and over—sometimes the legs go up, sometimes down, sometimes over, sometimes across, the child showing the direction of the legs by extending the arm the way the legs are pointing. Wholly objective methods are used, no word from the child being required.

The game with the E card is first taught. Care must be taken that the same routine is not always used, as the child very quickly anticipates the next position. After the child has learned the directions the E card is placed on the covered chart so that he may become accustomed to the light and playing with figures on the chart.

In the beginning a pointer was used for calling the child's attention to figures and letters on the chart, but this proved unsatisfactory. One is never sure which letter is being pointed to—the one above, the one below, the one to the right, or the one to the left. Even the shadow caused by the pointer is confusing. Therefore, at this stage the upper part of the chart is covered with a piece of cardboard so that the large letters are not visible, otherwise the child will inevitably demonstrate from the largest letter seen. When the child has learned to play the game a cardboard with square hole is used to cover the chart so that all figures except the one to which attention is called are covered.

This card must be sufficiently large to cover the chart, and again the hole in the cardboard must be sufficiently large to leave a white spacing around the exposed figure. (For the 100-foot line the hole should be three inches square; for the 70-foot, 50-foot and 40-foot line, two inches square; for the 30-foot and 20-foot line, one inch square.)

From the report of Dr. James Kerr, formerly School Medical Officer of London, England, the suggestion was received of using a *dark colored* cardboard for covering purposes. A very dark brown or green is satisfactory, being more restful for the person doing the testing and throwing the figure in more vivid relief for the child.

Getting the Children Accustomed

On beginning work the child must be accustomed to a 20-foot distance first; this is done by using the 50-foot line with both eyes uncovered. If this line cannot be seen, of course larger figures must be used. This accomplished, a game of "peek" is played, using the 3 x 5 cards of neutral color. A new card is used for each child, of course. The child is always a bit confused at first by the covering and uncovering; by uncovering both eyes at first, he quickly reacts to the game and is soon ready to proceed with one eye covered.

Work can be done more rapidly and with less fatigue to the child by alternating the eyes tested on each line rather than finishing with one eye and then doing the other. The right eye is always done first on each line and findings for each eye noted immediately on report.

If the child reads the first two figures accurately, he no doubt can see that line; if, however, the first two figures are read incorrectly, he must be judged as not seeing the line. This holds for larger figures; more careful reading must be done by smaller figures. Of course the child must be watched carefully and decisions based on the individual reaction.

If the child cannot see the top letter at the standard 20-foot distance, he must be placed at the distance from the chart at which he can see it. This distance must be accurately measured and substituted for the 20-foot distance on the right.

To determine this new position the larger E card with which the child originally learned to play the game may be placed against the Snellen chart and turned in any desired position.

It is of great advantage to have the child go to the chart between the reading of different lines. Two results are thus accomplished:

The eyes are rested by this change in focal distance.

An indication is given of the child's general reactions.

Moreover, if he demonstrates the figures quickly at the chart and slowly at the 20-foot distance, suspicion of eye faults is aroused because of the great power of eye accommodation in young children.

Jennie Shows Which Way the Legs of the Animal Point

As little children tire easily, it is necessary to be ever watchful for fatigue, the first symptom of which is inattention. Eye fatigue appears even more quickly than bodily fatigue.

The Spirit in the Game

Patience, perseverance, and ingenuity must be used in dealing with little children. The child's point of view must not be forgotten. The speed with which the work can be done is of secondary importance. If accurate findings are to be obtained the work has to be done slowly. No child wants to hurry when he is playing the game. One suggestion of hurry and the party is off. Once the child is antagonized his interest is gone. The child should never know that his eyes are being

tested nor should he know that he cannot play the game as well as any other child.

The spirit of the game must be continued throughout the entire procedure. It is such fun to put the little animals in little boxes, and the smaller the animals and the smaller the boxes, the more fun it is. The children should be allowed to decide what to call the E; sometimes their choice is an elephant, sometimes a pig which can be put in a pen.

After the reading of the Snellen chart is completed, a simple routine inspection of the eye is made, noting conditions of lid margins, cornea, iris and pupils, conjunctiva, ocular movements, light reaction and any indications of squint. It is also important that any symptoms of eyestrain be noted—bad posture, head held on the side, frowns, occasional turning in of the eye, that any one associating with the child may have noticed.

When results show particularly poor readings the findings should be checked by a second trial, but the children over five years of age can generally be tested satisfactorily in one session. With those between four and five years of age two trials are sometimes necessary, little ones under four years of age may require several trials before satisfactory results are obtained.

It is interesting to note that the general physical condition of the child materially affects the speed with which a test can be made. In the free kindergartens where the children were undernourished, had insufficient sleep, and where generally poor living conditions prevailed they were found to tire easily. In a pay kindergarten where the children were under constant medical supervision and were properly fed and cared for, only three children were seen a second time, though in this group there were sixteen under four years of age.

The Committee's study so far as it has gone has revealed astonishing conditions.

One little kindergarten girl considered rather stupid was able to read no better than the 200-foot line at six inches.

One with supposedly good vision had but 20/200 in right eye—20/30 in left eye.

Another, thought to be normal, had but 20/100 in right eye, 20/70 in left eye.

A four year old boy suffering from cataract which caused the unaffected eye to turn was caught in time for operative measures and correction to obtain good cosmetic results and a fair degree of vision.

Of particular note is the large incidence of strabismus or squint—both permanent and fleeting. An opinion frequently met with is that a squinting eye will probably adjust itself and that anyway nothing can be done until the child is older. Not the least of a clinic worker's duties is the necessity of convincing her clientele—or rather, the parents of her clientele—that the sooner a squinting eye has the attention of an oculist, the more quickly and surely can it be straightened.

Though this study by the National Committee for the Prevention of Blindness is still incomplete, no longer can the fact be questioned that much development of serious eye trouble can be averted by attention to the youngster *not yet in school.* Furthermore, there is no doubt that the visual acuity of every child over three years of age can be determined. No child should be allowed to begin school work until his eye condition is known—not only for the sake of his vision but also that he may be saved from other physical and mental ills so frequently accompaniments of faulty and neglected eye conditions.

Following the first demonstration of the conducting of a preschool eye examination during the Annual Conference of the National Committee for Prevention of Blindness last winter, requests have been received from all over the country for similar demonstrations.

The National Committee for the Prevention of Blindness will be glad to coöperate in giving demonstrations in various sections of the country with a view to establishing local preschool eye clinics.

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